# for all

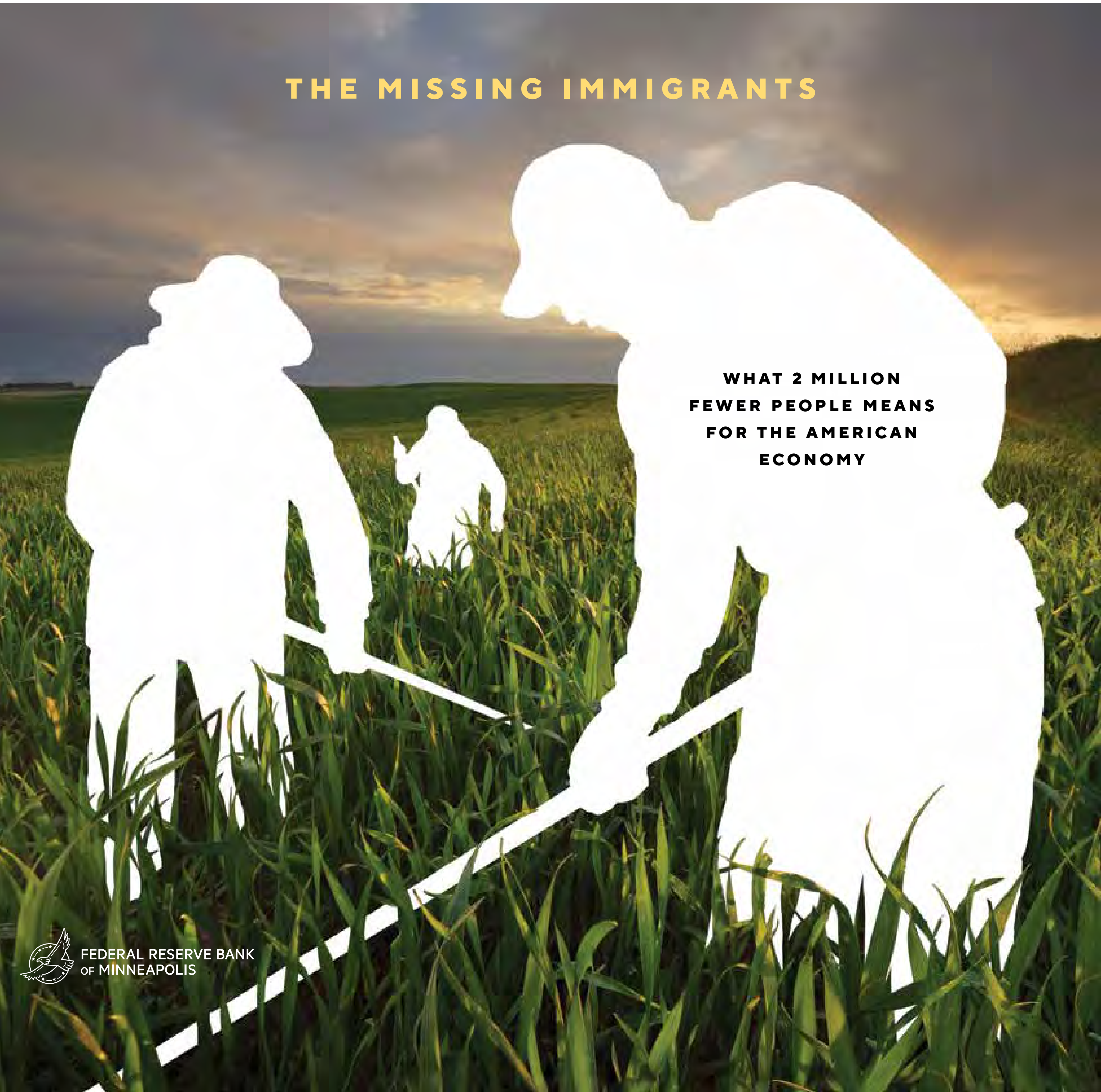
SPRING 2023

**INTERVIEW:** Luigi Zingales on populism, capitalism, and inclusive growth

**SPOTLIGHT:** Fairer credit scores through artificial intelligence

**DATA DIVE:** Good intentions in renter screening policies bring unintended consequences

THE MAGAZINE OF THE OPPORTUNITY & INCLUSIVE GROWTH INSTITUTE



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## Save the date

**Opportunity & Inclusive Growth Institute Research Conference**

**October 5, 2023**

Mark your calendar for a day of research presentations and discussions around how to enhance economic opportunity and achieve inclusive growth.

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***For All***
The magazine of the Opportunity & Inclusive Growth Institute

Federal Reserve Bank of Minneapolis

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*Erick Garcia Luna provided helpful comments on this issue.*

**FROM THE DIRECTOR**

**BY ABIGAIL WOZNIAK**

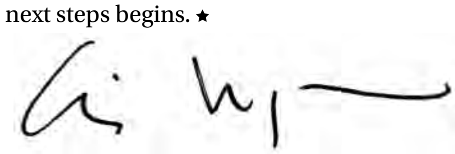
# The head and the heart in immigration policy

U.S. IMMIGRATION IS A COMPLEX TOPIC, and it is the focus of policy debates that can quickly become charged with strong feelings. Most Americans today have personal connections to an immigration experience. For some of us, like me, these connections can be deeply influential, even though immigration is not part of my personal experience. My grandparents both came to New York as young adults. My grandfather in particular was hopeful that the U.S. would provide more opportunity for someone with his working-class German background. This proved true, but like so many immigration stories, also complicated. He became a successful engineer, but he and his immigrant community became the subject of suspicion and isolation during World War II.

I now work alongside many immigrants, as 60 percent of Ph.D.s from U.S. universities are awarded to noncitizens. I consider this one of the great privileges of my job. In my first courses in graduate school, I marveled at the Avengers-like atmosphere of bringing together people from all over the world for a single purpose. Since then, I have sat in academic presentations in which an immigrant researcher presented new insights on the U.S. economy, and each time I have felt a wave of gratitude. It's remarkable to me that someone not born here would spend their work life trying to understand this country.

Like many of my colleagues, millions of immigrants across the socioeconomic spectrum spend their lives trying to understand and navigate life in the U.S. Their decisions to come to this country are motivated by an endless variety of circumstances, and each person experiences immigration differently. So do the communities that receive them. As an economist, I understand that immigrants shape and grow the U.S. economy. There is strong consensus among economists that immigrants strengthen our economy in myriad ways. More than that, there is good evidence that the potential negative impacts are small or simply more perceived than real.

My personal connections to immigration have strong feelings attached to them, so I understand the emotions around discussions about U.S. immigration policy, even when they differ from mine. How should we use evidence in a public policy discussion where even the experts have emotions that run so high? It is tempting to hope that facts will speak for themselves, but a volley of facts, even true ones, does not make for meaningful conversation. For example, the shortfall in overall immigration described in our feature article is real, as is the sharp rise in border apprehensions. Stating these facts alone will not make it easier to see how to proceed. Instead, we will have to be brave about where the facts point, as well as honest when our emotions make it hard to accept them. If we can do this, we will truly be thinking like economists. The trade-offs we face will come into focus. That is where real conversation about next steps begins. ★



UPDATE

# Shifting geography of economic activity

**BY LISA CAMNER MCKAY**

In November, the Institute's second annual research conference—and first in-person event since 2019—brought together more than 100 people at the Minneapolis Fed. The conference opened with a keynote conversation with Federal Reserve Governor Philip Jefferson, Harvard Kennedy School professor Karen Dynan, and University of Chicago professor Esteban Rossi-Hansberg. Minneapolis Fed President Neel Kashkari, who moderated the discussion, asked the panelists how the world of work has changed and what the economy will look like post-pandemic.

Both Dynan and Rossi-Hansberg pointed to how impacts might vary across space. Working from home could be a "game changer" for many types of jobs, Rossi-Hansberg said, and this might cause the distribution of economic activity and opportunity to shift—across people, across places, or across occupations.


CAROLINE YANG FOR THE MINNEAPOLIS FED

In particular, Dynan noted, the ability to work from anywhere might have a disproportionate impact on cities that either were not delivering adequate services or that have a high cost of living. While some people will benefit from the option to live anywhere, those working in services industries might be left behind. That concern connects with Rossi-Hansberg's research on neighborhoods that at one point were "shining examples of productivity," but that went into decline when new technology moved into other sectors in other locations. More research is needed, Rossi-Hansberg said, to incorporate city structure into models of fiscal and monetary policy.

Understanding how the world of work is shifting can help illuminate barriers to labor market participation. Jefferson pointed to affordable, accessible child care as an area where public policy can help increase labor force participation, which has yet to recover to pre-pandemic levels. More broadly, Rossi-Hansberg said, governments should consider what services people will need and what will no longer be needed to work from home. This information should inform government expenditures—and targeting spending to areas with high returns will become all the more important in a world of higher interest rates and government debt, Dynan said. The Institute can play an important role here, the panelists agreed, by bringing together experts with diverse expertise who can share insights about how distributional considerations may affect policy goals such as maximum employment.

In-person attendees and more than 1,000 online viewers also heard six research paper presentations, selected by the program committee from more than 70 submissions. In different ways, the papers provide insights that can help leaders as they consider policies that support economic inclusion.

For instance, Richmond Fed Research Director Kartik Athreya's presentation suggests that policymakers can use the share of households in an area that are in "financial distress"—delinquent on their debt—to predict places likely to experience particularly negative effects of a recession. Policymakers could use this data to target government relief efforts. Another paper, presented by Board of Governors economist Eric Nielsen, sought to identify how mothers' labor outside the home affects their children's cognitive development. This understanding could inform which policies might best support both mothers and children. All six papers, plus presenters' and discussants' slides, are available on the Institute website. ★

The research community at the Institute includes visiting scholars, consultants, economists, research analysts, and research assistants. These scholars bring a diversity of backgrounds, interests, and expertise to research that deepens our understanding of economic opportunity and inclusion as well as policies that work to improve both. We talked with four of them about their work.

**MODIBO SIDIBÉ**

**Kathleen Kaylor and G. Richard Wagoner Jr. Assistant Professor of Economics, Duke University**

## FROM CHICAGO TO BAMAKO, PURSUING POLICIES THAT WORK

Institute visiting scholar Modibo Sidibé has touched many topics in his career: labor mobility, school choice, police use of force. This spring, he set those projects on pause to return to his native Mali and focus on voting.

"Mali is a large country and there are many places with low population density," Sidibé said, speaking from the capital, Bamako. "Organizing voting operations in those places is really difficult." The landlocked West African country is also plagued by coups and corruption. "People want roads, hospitals, and schools," Sidibé said. "I do not understand how governments—tasked to provide basic infrastructure—end up creating an ecosystem of civil servants only enriching themselves, at every level."

Sidibé's voting experiment is a modest effort to turn the tide. Despite the widespread corruption, he secured government cooperation for a test in September's municipal elections: In one central region, Sidibé will lead an effort to allow residents to vote without leaving home. "We want to be able to reduce the cost of voting to a one-minute phone call," he said. This makes voting easier and sidesteps the bribes aimed at voters outside polling stations. The vote-by-phone option will be available in half of the region's towns, allowing Sidibé to compare the results with a control group.

**"We want to be able to reduce the cost of voting to a one-minute phone call."**
—Modibo Sidibé

While he writes op-eds on Malian politics, researching development economics in Mali has been "a really painful topic" that Sidibé has largely avoided in favor of policy questions in his adopted homes. Does French public housing help people save for homeownership? (It does.) Are relocation subsidies an effective policy to help people move to fill available jobs? (It appears not.) Can free college tuition help reduce U.S. income inequality? (It may actually make it worse.)

Another recent project, presented during his Institute visit, uses granular data on police schedules in Chicago, where seniority determines which cops walk which beats. Senior officers naturally self-sort into safer neighborhoods. From a policy-planner perspective, however, this is precisely where they should *not* be: Experienced officers in Chicago use less deadly force and appear to prevent more violent crime.

Sidibé and his co-authors propose an alternative, budget-neutral mechanism using financial incentives, not seniority, to shape who works where. In their model, this cuts violent crime by 5 percent while reducing use of force and arrests for nonviolent offenses. Officers, on the whole, are also better off.

Could this plan get off the ground in the face of potential concerns from police unions? "Once you explain that the mechanism is based on choice, I think you can make headway," Sidibé said. As in Mali, a big change could start with one small experiment.

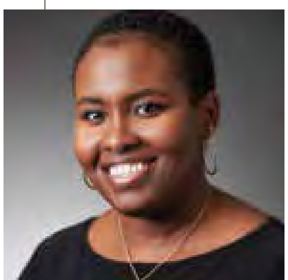
*—Jeff Horwich*

**MONIQUE DAVIS**
Research Assistant, Opportunity & Inclusive Growth Institute

## REVEALING THE CONTEXT OF OUR CHOICES

As an applied math major at a historically Black university, North Carolina A&T, Monique Davis thought she would become an actuary. A solid career for sure, but she found the work rote. Plug numbers into this program. Consult a formula.

Economics, however, engaged Davis' interest and challenged her abilities. The idea of analyzing choices in an organized way and then connecting that analysis to data sparked something for her. Others noticed, too. "When two professors independently on the same day said, 'You need to add economics as a second major,' that's a sign," Davis recalled.



But what to do with these skills? It was during Davis' time after college that her direction crystallized. Debates during the 2016 presidential election seemed to circle around race and economics as broad forces shaping our political system and our economy. At the same time, Davis was reflecting on individuals' choices. Davis' grandmother had an MBA—a "high-status family background," in the language of labor economics. But that did not guarantee stable lives for her kids and grandkids. Davis wondered why. What choices led to those outcomes, and what forces led to those choices?

Then, at the end of Davis' first year in the applied economics Ph.D. program at the University of Minnesota, everyone was suddenly talking about how social forces shape economic choices. After George Floyd was murdered by Minneapolis police officers in May 2020, Davis said, "a lot of people in my personal life, White friends, were saying 'Monique, I get it now.'" But did her chosen field, economics, have the language to reflect the interplay between collective ideas and individual actions?

Davis began working on stratification economics, a developing field that combines the idea of rational decision-making with the idea that people value their group identity, especially when it brings economic privileges. She has been able to apply this background as a research assistant at the Institute. She currently researches how law enforcement officers in schools affect discipline and educational outcomes differently for Black versus non-Black students.

"This is why I really wanted to get this degree in the first place," Davis said, "to focus and highlight Black issues and to make things more equitable not just for the Black community but for any marginalized community." Davis isn't consulting a formula anymore—she's working to change the formula.

*—Andrew Goodman-Bacon*

**STEFANIA ALBANESI**
Professor of Economics, University of Pittsburgh

## TAPPING ARTIFICIAL INTELLIGENCE TO BRING FAIRER ACCESS TO CREDIT

What caused the mortgage crisis that tipped the U.S. into the Great Recession? One intuitive story remains prevalent: A housing bubble was inflated by ill-advised lending to subprime borrowers.

After the financial crisis, Institute visiting scholar Stefania Albanesi was studying personal bankruptcy reform at the New York Fed when she sensed this subprime narrative "wasn't squaring with what we were finding." Borrowers with low credit scores had not taken out a higher share of mortgages or defaulted much more than they had historically. "What we *did* see during the foreclosure crisis was a lot of high-credit-score borrowers defaulting on their mortgages," she said, especially those whose good credit had allowed them to purchase investment properties.

Albanesi says this false lesson—unduly pinning the Great Recession on subprime homebuyers—makes mortgages even harder to get for people with lower credit scores, who tend to be younger, lower-income, and non-White.

This research also led Albanesi to question the mechanics of credit scores themselves. The widely accepted scores assigned to almost every American—by for-profit companies using opaque formulas—seem to have missed the mark on predicting the risk of consumer default. She wondered: Could artificial intelligence do better?

The short answer so far: A.I. seems far superior. "Based on our model, conventional credit scores misclassify 30 to 50 percent of consumers," Albanesi said, especially those with low credit scores. "Being categorized as 'deep subprime' if you are in fact subprime or near-prime, for example—that's a very big difference in the borrowing conditions that you face."

The "deep machine-learning" algorithm, designed with co-author Domonkos Vamossy, digests massive amounts of consumer data to derive credit scores that appear fairer and more accurate than those that presently govern our financial lives. Albanesi is optimistic that policymakers could be motivated by the findings.

This research on credit and first-time homebuyers complements her other projects that illuminate the economic plight of young people. How does student debt postpone the decision to start a family and take out a mortgage? Why does today's labor market push "boomerang" college kids back home with their parents?

"As economists, we should really care," Albanesi said. "What happens in the five to 10 years after you graduate from college or high school can shape your entire life's trajectory."

*—Jeff Horwich*

## WILLIAM COLLINS

**Terence E. Adderley Jr. Professor of Economics, Vanderbilt University**

# DIGGING FOR THE ROOTS OF ECONOMIC DISPARITIES

Some economists sit poised at the computer, ready to dissect the latest government data drop. Institute visiting scholar William Collins, meanwhile, squints at scans of microfilm to understand the life of a farmer in the 1800s.

"When we work on questions about economic and social mobility, especially in the 19th century, we don't always know how to characterize farmers," said the Vanderbilt economic historian. "They can be rich or poor—the only thing you get from the census of population is the occupation."

Many handwritten manuscripts from the U.S. Census of Agriculture were destroyed, but the 1880s survived—yielding rich detail, Collins said, if you have patience, research assistants, and a skilled co-author (in this case, Marianne Wanamaker). "The distribution of landholdings of farmers gives us insight into differences across regions and racial categories. It tells us who owned what. If you are interested in the origins of wealth disparities, that kind of data is really valuable."

**A revolution in historic economic data "will help us rewrite substantial portions of American labor-market and demographic history."**

—William Collins

The current revolution in access to historic data—especially digitization of old census records—is a boon to Collins' research, tracing long-ago patterns and policies to economic conditions today. "We are moving from a world of cross sections to a world where you have large, longitudinal datasets of people," Collins said. "It will help us rewrite substantial portions of American labor-market and demographic history."

The new census data helped Collins and former Institute visiting scholar Ariell Zimran interrogate an old view that still informs U.S. immigration debates, that immigrants from some countries are less likely to flourish. Instead, the evidence from 1850 to 1940 points to the jobs and skills of immigrants: Were they complementary to U.S.-born workers, and did the jobs offer upward mobility? Among immigrants and native-born Americans, unskilled laborers appear much more upwardly mobile over time than farmers.

The new data also allowed Collins to link Black father-son pairs starting in 1880, highlighting how low intergenerational mobility has sustained the enduring U.S. racial earnings gap. The recent digital census release for the 1950s will help further his study of the decades before the civil rights era, when states experimented with the first fair employment laws. This period is also the tail of the "Great Migration" of Black people moving north, a topic that still fascinates Collins 30 years after a college class sparked an interest in the Harlem Renaissance.

Economic history "connects the disparities of the past to the disparities of the present," Collins said. "If you understand those mechanisms of perpetuation, maybe you can understand the levers you might pull as a policymaker to work in the other direction."

*—Jeff Horwich*

## 2022–23 Institute Visiting Scholars

The Institute annually invites selected scholars from many disciplines to pursue research while in residence at the Minneapolis Fed.

**Francesco Agostinelli**
Assistant Professor of Economics
University of Pennsylvania

**Stefania Albanesi**
Professor of Economics
University of Pittsburgh

**Belinda Archibong**
Assistant Professor of Economics
Barnard College
Columbia University

**Peter Arcidiacono**
William Henry Glasson Distinguished
Professor of Economics
Duke University

**William Collins**
Terence E. Adderley Jr. Professor
of Economics
Vanderbilt University

**Jeanne Commault**
Assistant Professor of Economics
Sciences Po Paris

**Niklas Engbom**
Assistant Professor of Economics
Stern School of Business
New York University

**Marina Mileo Gorzig**
Researcher
Mathematica

**Dirk Krueger**
Walter H. and Leonore C. Annenberg
Professor in the Social Sciences and
Professor of Economics
University of Pennsylvania

**Alessandra Peter**
Assistant Professor of Economics
New York University

**Kevin Rinz**
Economist
U.S. Census Bureau

**Modibo Sidibé**
Kathleen Kaylor and G. Richard Wagoner Jr.
Assistant Professor of Economics
Duke University

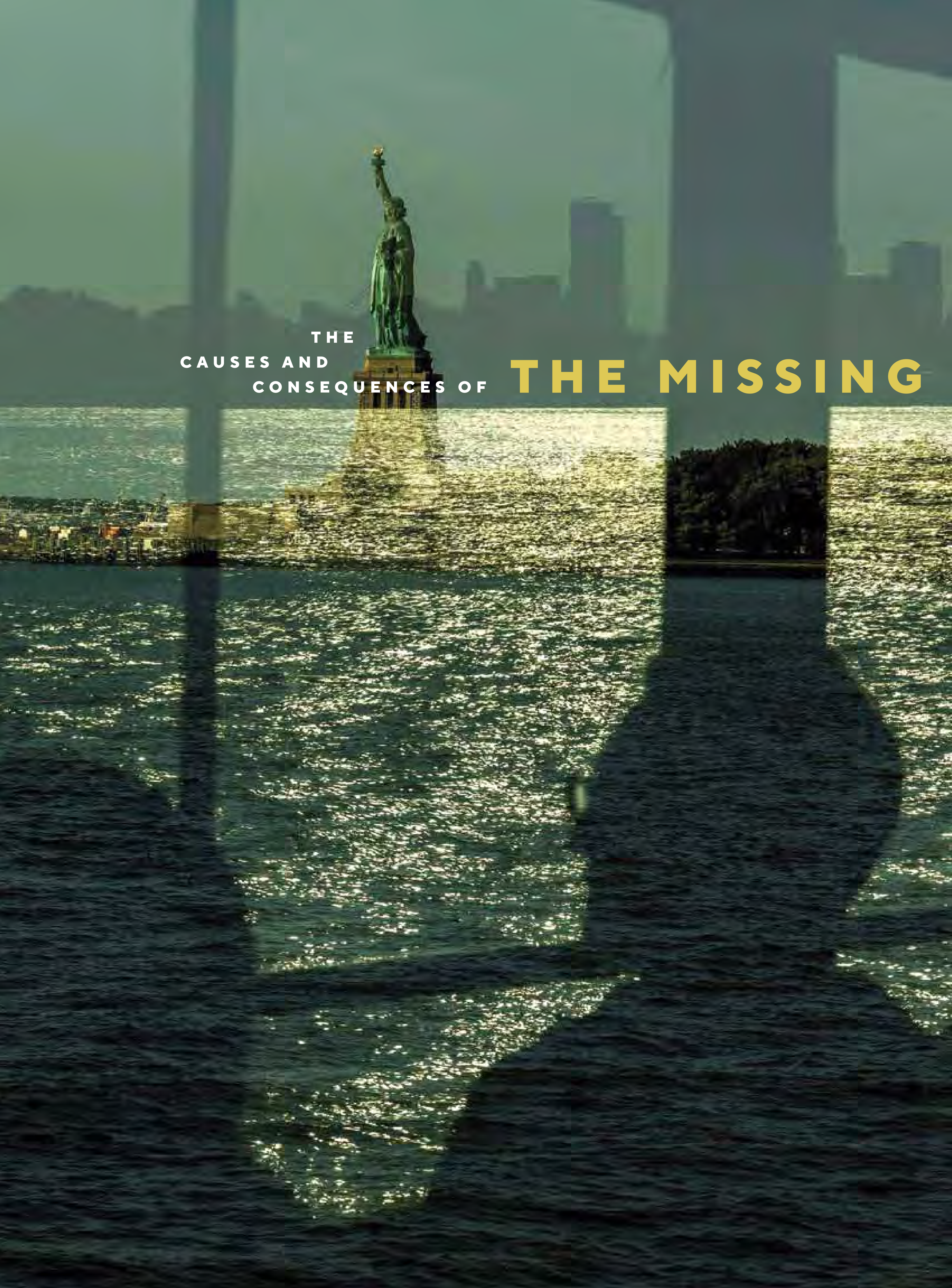
**CarlyWill Sloan**
Assistant Professor of Economics
West Point

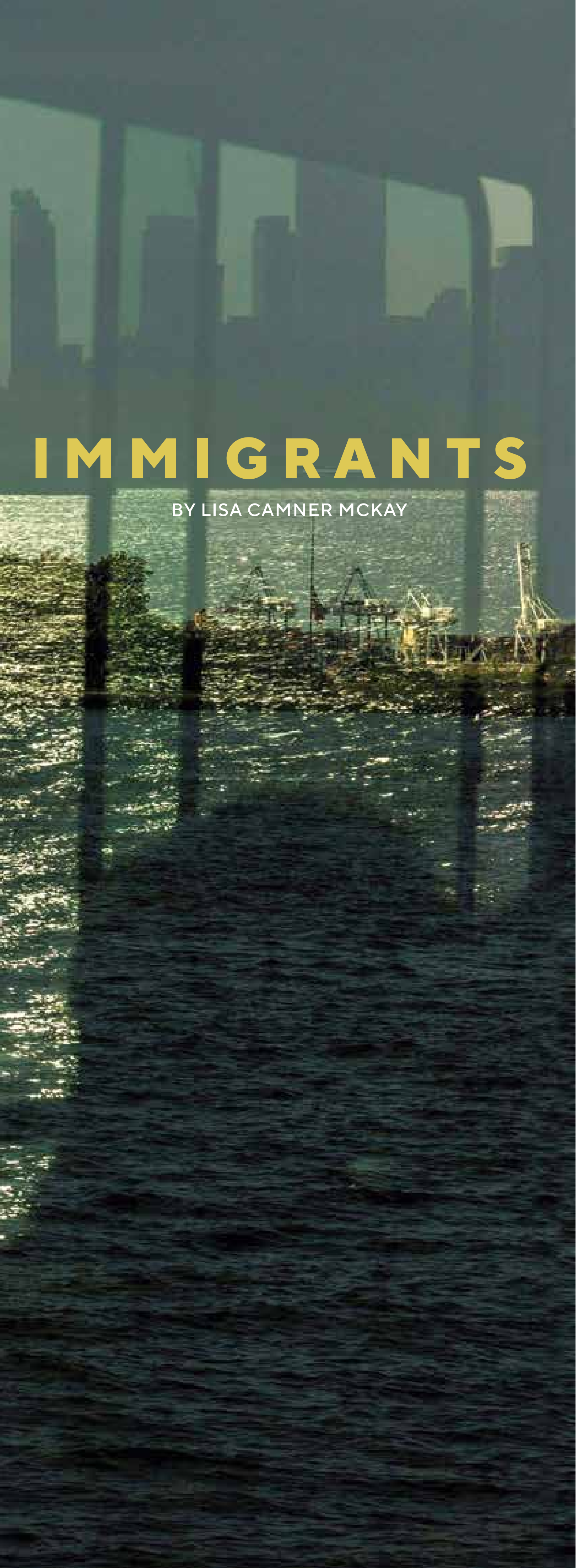
**Felix Tintelnot**
Associate Professor
University of Chicago

**Gustavo Ventura**
Professor of Economics
Arizona State University

**Teegawende Zeida**
Assistant Professor of Economics
Brock University

# THE CAUSES AND CONSEQUENCES OF THE MISSING





ALEX KENT / GETTY

# IMMIGRANTS

BY LISA CAMNER MCKAY

IN OCTOBER 2022, FEDERAL RESERVE OFFICIALS and business leaders got together at an event organized by the Minneapolis and Kansas City Feds to talk about rising costs of food processing, transportation, and labor. They ended up talking about immigration policy.

"You recognize the number of acres that don't get planted or harvested because there is no labor," Land O'Lakes CEO Beth Ford said at the event. "We have got to get labor, especially at the farm level. … We are a couple million workers short."

The missing workers Ford was referring to are, to a large degree, immigrants: 55 percent of hired U.S. farm laborers were born outside the United States. "It's why I push pretty strongly [that] we must get some immigration reform," Ford said.

Between 2011 and 2016, annual net international migration (that's the movement of people into and out of the United States) was trending up slowly, reaching 1.1 million in 2016. Then the trend reversed; by 2021, it was just 245,000.

Just how many people didn't come (or didn't stay)? In 2017, the Census Bureau released a population projection that estimated the United States would continue to add about 1 million immigrants a year on net (see figure on page 8). Adding up the difference each year between actual immigration (green bars) and those projections (gold bars) is one way to estimate the immigrant shortfall: The United States is missing about 2 million immigrants.

Given the agriculture sector's reliance on foreign-born workers, it's not a surprise it has struggled to find labor after five years of declining immigration. But the consequences of the missing immigrants extend far beyond the impact on labor supply. Immigrants are workers, entrepreneurs, students, taxpayers—in these ways and more, they contribute to economic opportunity and growth in the United States.

"When I think about the one thing we could do as a country that could really boost our economic competitiveness, it is fixing our immigration system," Minneapolis Fed President Neel Kashkari said at a November 2022 event. "That is the single biggest thing I'm aware of that is within our control that could really move the needle on our economy's potential."

### Who didn't come? Why didn't they come?

One obvious explanation for the immigration slowdown is that countries around the world halted travel in response to the COVID-19 pandemic.

But it's not the only explanation. Immigration to the United States started falling three years before the arrival

**IMMIGRANTS CONTRIBUTE TO THE HEALTHY FUNCTIONING OF THE U.S. ECONOMY VIA THEIR MOBILITY, BY SETTLING IN FAST-GROWING AREAS WITH RISING WAGES AND JOB OPPORTUNITIES.**

of the coronavirus, a result of policy changes that added complexity to immigration processing and, indirectly, the perception of the United States as a welcoming destination. One of the most significant changes was the expansion of the "public charge rule" that required visa applicants to demonstrate they would not become dependent on government benefits, a subjective determination based on factors such as income, assets, debt, health insurance, and any past benefit receipts. Applications became even more burdensome as a result. Denial rates and requests for additional evidence on applications also increased—even for visa renewals. Processing times slowed.

The interaction of a global pandemic with these changes had the predictable effect of depressing immigration even more.

Data from the U.S. Census Bureau's Current Population Survey show a 3.7 percent decline in the nation's non-citizen, foreign-born population between 2016 and 2021. That decline, however, was not spread evenly across the age distribution: It was concentrated among those between the ages of 20 and 39. The percent of the foreign-born population that was 55 and over, meanwhile, increased during this time. Put differently, recent events appear to have had a chilling effect on a number of young adults who otherwise would have immigrated to the United States.

### Fewer immigrants, more unfilled jobs

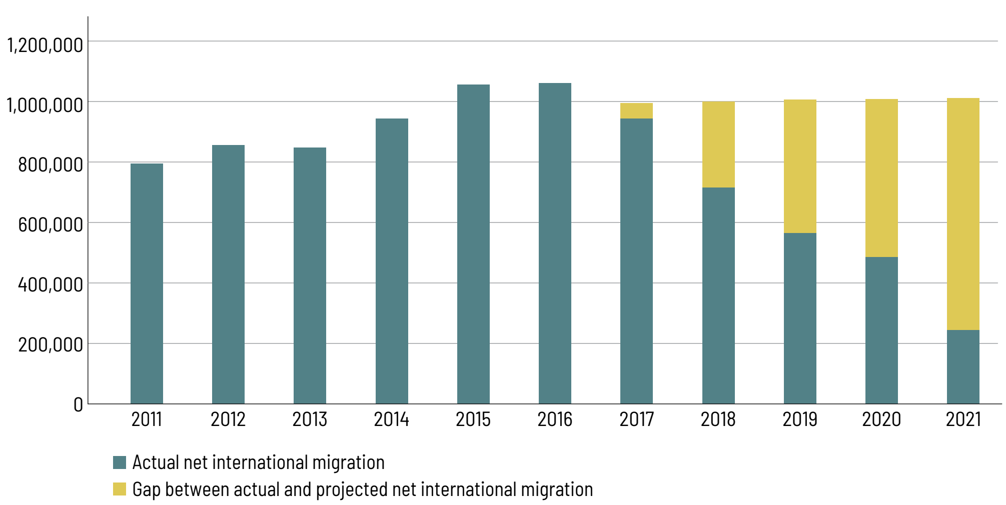
Perhaps the most predictable and direct consequence of the immigrant shortfall was its contribution to the labor shortage. During the pandemic, "net migration into the U.S. basically fell to zero," Dallas Fed vice president and former Institute System affiliate Pia Orrenius observed. "That's unprecedented. And of course if the recession had lasted all year, that would not have been a problem. But the recession lasted only two months. And so we came out of recession and there was a huge spike in labor demand and everybody wanted to hire."

Of the 2 million "missing" immigrants, approximately 1.2 million of them would have been in the labor force, based on the age profile and labor force participation rate of the foreign-born population. That comes to about 40 percent of the average monthly labor force shortfall in 2022.

Some sectors have felt this shortage more acutely than others. University of California, Davis, economists Giovanni Peri and Reem Zaiour find a positive correlation between the share of an industry's workforce that is foreign-born and its rate of unfilled jobs in 2021. This is particularly evident in the food and hospitality sector, which saw the largest decline in foreign-born employment and had the largest number of job vacancies in 2022, and in the health care and social assistance sector, which employed fewer immigrants in July 2022 than it did in February 2020.

Another way that immigrants contribute to the healthy functioning of the U.S. economy, particularly in times of economic turmoil, is via their mobility. Immigrants tend to settle in fast-growing areas with rising wages and job opportunities. And if the economic winds shift, they are more likely than U.S.-born individuals to relocate to an area with more opportunity. This mobility facilitates economic growth by helping labor

#### ACTUAL VERSUS PROJECTED NET INTERNATIONAL MIGRATION




Net international migration includes foreign-born immigration, foreign-born emigration, and net U.S.-born migration. There are different ways to estimate actual and future international migration that yield different numbers, but the pattern remains. The Census Bureau revised its methodology in 2022, making the 2022 net international migration estimate not comparable to estimates from previous years.

Source: U.S. Census Bureau, Vintage 2021 Population Estimates; U.S. Census Bureau, 2017 National Population Projection Series.

**Filling jobs, creating jobs**
Immigrants expand not only labor supply (as workers) but also labor demand (as founders of firms). Marcela Bendito, an immigrant from Mexico, started Unique House Cleaning in 2012. The company now employs several other women. As of 2020, approximately 3.2 million immigrants ran their own businesses.
ED KASHI / VII VIA REDUX

**IMMIGRANTS ARE NEARLY 80 PERCENT MORE LIKELY TO START A NEW BUSINESS THAN U.S.-BORN INDIVIDUALS. THESE FIRMS ARE MORE PRODUCTIVE AND MORE LIKELY TO HOLD A PATENT THAN FIRMS WITH U.S.-BORN FOUNDERS.**

and other resources needed for production get to where they are most needed. Indeed, employment among foreign-born workers has been evolving quickly over the last few years of economic upheaval. After a steep decline in 2020, it has recovered to its pre-pandemic trend.

### The labor crunch spillover: Inflation

Might these sectoral labor shortages have contributed to inflation, a pain felt by all Americans? It's too early for rigorous economic analysis of such recent events, but there's reason to think so, by pressuring wages and disrupting supply chains.

"I think absolutely there's a connection there," Orrenius said. "The spike in labor costs has many sources and immigration may not be the number one source, but these bottlenecks in labor markets and the constraints that they've placed on the supply chain I think have been an important factor in inflation."

Research suggests there can indeed be a relationship between immigration levels and prices. In a study published in 2008, Boston University economist Patricia Cortés analyzed the relationship between the share of a city's workforce who are immigrants without a high school degree and the price for services with a high proportion of immigrant workers, such as housekeeping, gardening, child care, and dry cleaning. She finds that a 10 percent increase in the share of this immigrant population in a city's labor force resulted in a 2 percent decrease in prices for those services. While her study analyzed a particular group of immigrants and particular prices, it suggests that the recent large shock to immigration—a 50 percent reduction from 2020 to 2021—could significantly impact prices in certain sectors.

### New ideas, taking risks

Immigrants' role in the U.S. economy extends beyond their labor in many ways. They are also innovators and entrepreneurs, contributing disproportionately to these high-value economic activities. Of the companies that made the Forbes 500 list in 2020, 20 percent were founded by immigrants and

**Providing care**
An aging U.S. population is increasing the demand for health workers. Between 20 and 25 percent of nurses, health aides, and physicians in the United States are foreign-born. Rural areas are particularly reliant on immigrant health care workers. Fadel Nammour is a gastroenterologist who emigrated from Lebanon to Fargo, North Dakota, 20 years ago. He is now an American citizen.
ACKERMAN + GRUBER

another 24 percent were founded by the children of immigrants, according to the New America Foundation. These companies had a combined revenue of $6.3 trillion and employed 13.7 million people.

Research shows that immigrants contribute to small and medium-size businesses too: Between 2008 and 2012, immigrants made up about 13 percent of the U.S. population but started about 25 percent of all new firms, which are drivers of job creation, providing opportunities to all workers. Indeed, immigrants are nearly 80 percent more likely to start a new business than U.S.-born individuals. These immigrant-founded firms are more productive and more likely to hold a patent than firms with U.S.-born founders.

Immigrants also contribute in important ways to innovation. New research finds that between 1976 and 2012, 16 percent of all U.S.-based inventors were immigrants who came to the United States at the age of 20 or after. These immigrant inventors produced 23 percent of all patents granted during this period. Even when immigrants aren't company founders, research suggests that firms that increase their number of foreign-born workers on H-1B visas introduce more new products and have higher revenues than other firms.

More broadly, immigrants contribute to the U.S. economy by complementing the U.S.-born workforce. "The big picture is that immigrants tend to have different skill sets than U.S.-born people, on average. When you get people with different skill sets working together, they can more easily specialize," explained Tara Watson, economist at Williams College and fellow at the Brookings Institution. "You get a situation where people are making the most use of the skills that they have, and that leads to productivity gains."

This is not an argument that U.S.-born individuals are less inherently entrepreneurial, innovative, or productive than natives of other countries; rather, immigrants are a highly selected group of individuals. Research by Harvard Business School economist William R. Kerr has found that around the world, more talented individuals are more likely to emigrate—and as migrants' talent level rises, so does their preference for moving to the United States. America's beacon has delivered economic good fortune.

MORE TALENTED INDIVIDUALS ARE MORE LIKELY TO EMIGRATE—AND AS MIGRANTS' TALENT LEVEL RISES, SO DOES THEIR PREFERENCE FOR MOVING TO THE UNITED STATES.

### A financial blow

When asked about potential consequences of the decline in immigration, University of Oregon economist and former Institute visiting scholar Mark Colas mentioned one that hits close to home for him: the effect on universities. "We've seen a huge decline in mostly Chinese students," Colas said, due to factors both in the United States and in China. "I think financially that has affected the university quite a bit."

Between 1980 and 2017, foreign-born students' share of U.S. college and university enrollment doubled, from 2.5 percent to 5.1 percent. At the top 150 or so universities with the highest research output, the share is considerably higher, around 11 percent. According to a recent paper in the *American Economic Journal*, the growth in foreign student enrollment was partly due to the response of higher education institutions to substantial declines in state funding, and today foreign students are an important source of revenue for many colleges and universities.

Paralleling immigration trends as a whole, the number of foreign-born students at U.S. colleges started to decline in 2017; as of 2022, it was down about 20 percent. The impact of international students goes beyond the tuition they pay to universities, however, as student visas are a key pathway through which foreign-born individuals enter the U.S. labor market. A recent Philadelphia Fed working paper studied the founders of around 30,000 venture capital–backed firms, which tend to be particularly large and innovative. About 20 percent of these firms have immigrant founders, and more than three-quarters of those immigrant entrepreneurs first came to the United States for education. Other research has found that around 1 in 5 international students will work in the United States for at least a few years.

As students, immigrants participate in their local economies as consumers and taxpayers—as most immigrants do. Like U.S.-born individuals, foreign-born individuals are net consumers of government expenditures when they are young (not working, receiving education) and when they are old (not working, receiving health care). According to analysis by the National Academies of Sciences, Engineering, and Medicine, the average net fiscal impact of a foreign-born person is positive from around ages 25 to 65, roughly $10,000 a year. If the recent decline in the foreign-born population occurred primarily in this prime-age group, as appears to be the case, then "in the short term that's probably a big fiscal loss," said Colas, who has studied the fiscal impact of immigration.

### Immigration today, impact tomorrow

The short-term effects of the missing immigrants may get the headlines, but there could be long-term consequences as well. It's not easy to estimate the impact of immigration 100 years down the road, but an innovative analysis shows U.S. counties that had higher levels of immigration between 1850 and 1920 today have higher incomes, less poverty, less unemployment, and greater educational attainment than counties that had less immigration. "Every indicator we looked at in the short run and long run was higher," with the exception of years of

**Pursuing education**
After Ximena's* family emigrated from Mexico to the United States, her parents worked as a dishwasher and baker on Stanford's campus. Now Ximena is a student at Stanford majoring in biology and comparative studies in race and ethnicity. Twenty-nine percent of college-educated workers in science, technology, engineering, and math—all high-demand, high-salary fields—were born outside the United States. **Last name withheld upon request.*
NIKOLAS LIEPINS

formal education in the short run, said Nancy Qian, an author of the study and an economist at Northwestern University.

Qian is also studying the long-term impact of *limiting* immigration. In a new working paper, she and co-authors investigate the consequences of the Chinese Exclusion Act, which banned Chinese immigration after 1882 and was not repealed until 1943. The economic effects were deep, broad, and long lasting: Income, productivity, innovation, and firm investment all declined, effects that persisted until at least 1940. Their results offer further evidence that foreign-born workers complement rather than replace U.S.-born workers, helping to grow the economy for everyone.


**Double duty**
Compared to the U.S.-born population, the foreign-born population is younger and has a higher rate of labor force participation. Juan Cifuentes is an auditor at Ernst & Young, and he helps out at his father's restaurant on weekends. The family immigrated to the United States in 2010 from Colombia, when Cifuentes was 17.
SCOTT HEINS / NEW YORK TIMES VIA REDUX

There is another important long-term consequence of reduced immigration: It will slow U.S. population growth. And that's a problem.

The amount of immigration between 2020 and 2060 could change the U.S. population by as much as 127 million, according to projections by the U.S. Census Bureau. Without immigration, the U.S. population will start to decline in just 15 years. New arrivals as well as their children play a role here, as immigrants have more children on average than the U.S.-born population.

There is, of course, a close connection between population growth and labor force growth. Since 2000, immigrants account for 45 percent of the labor force growth, according to the Dallas Fed's Orrenius. More recently, immigration appears to be the *only* source of growth, a trend that is likely to continue, Orrenius said.

This is important because labor force growth is an essential ingredient for economic growth. "We won't be able to function well as a society or take care of our elderly by 2040 without sustaining significant immigration going forward," Watson of Williams College said.

### A long road

While the executive branch modifies immigration rules regularly, the last major piece of legislation on immigration passed by Congress was in 1990. It established the H-1B visa, a non-immigrant employment visa for college-educated workers, and set the maximum number at 65,000 per year. Today's cap? Still 65,000. (An additional 20,000 are granted to foreign nationals with a master's degree or Ph.D. from a U.S. institution.) This stasis persists despite the fact that demand is high: For fiscal year 2023, some 48,000 U.S. companies submitted more than 480,000 requests to an initial lottery for the opportunity to submit an H-1B application.

In the absence of congressional legislation, executive action has played a large role in shaping immigration policy. This leads to heightened uncertainty no matter who is in office, as U.S. presidents have term limits and their actions aren't subject to the same negotiation and compromise of congressional legislation.

"The U.S. I think is still seen as a safe haven even when the rhetoric is at its worst," Watson said. "People who have ties already in the U.S. are also less likely to be deterred by the anti-immigrant policies or rhetoric."

But for immigrants who are moving for opportunity and do not have strong ties, the political environment could make an

**Putting down roots**
The United States is home to 4.25 percent of the world's population, but it receives 19 percent of international migrants. At this naturalization ceremony, Los Angeles Dodgers broadcaster and legendary pitcher Fernando Valenzuela was honored with the Outstanding Americans by Choice award, while immigrants originally from Thailand, Mexico, and elsewhere celebrated becoming U.S. citizens.
GARY CORONADO / LOS ANGELES TIMES VIA GETTY

RECENTLY, IMMIGRATION APPEARS TO BE THE ONLY SOURCE OF U.S. LABOR FORCE GROWTH, A TREND THAT IS LIKELY TO CONTINUE.

impact. "Our system was never 'user friendly'… but talented people were willing to make the investment for the strong opportunities here that they could ultimately secure. The uncertainty of the last six or so years has undercut that," said Harvard Business School economist William Kerr. Indeed, between 2016 and 2019—before the pandemic—applications for U.S. permanent residence fell by 17 percent, while applications for permanent residency in Canada from non-citizens living in the United States increased 128 percent.

There's also the potential that the lack of immigrants between 2017 and 2021 will weaken the networks that pull in new immigrants, Watson pointed out. If that happens, the immigrant shortfall of the past few years could have long-run impacts.

Only time will tell. In 2022, the U.S. Citizenship and Immigration Service granted more employment-based immigrant visas than in any year since at least 1993. How quickly immigrant flows can slow and then resume is perhaps one of the key lessons from recent trends. This responsiveness offers optimism that the impact of the five-year decline in immigration may be relatively short-lived. However, such volatility also makes it difficult to make predictions about what will happen in the future. Labor force growth, entrepreneurship, higher education, fiscal receipts—the many and varied ways that immigrants contribute to economic opportunity and growth—all become more uncertain in a future in which immigrants may or may not come. ★

Natalie Gubbay provided research assistance for this article.

# Saving Capitalism FROM ITSELF AND FOR THE People

**Institute advisor Luigi Zingales preaches the power of competition to create a more inclusive economy—if we fight to protect it**

BY
JEFF HORWICH

PHOTO BY
CAROLINE YANG

By his own admission, Luigi Zingales might not be a conventional pick for the Institute Advisory Board. He holds a chair in entrepreneurship and corporate finance at the University of Chicago Booth School of Business, preparing MBAs destined for the "1 percent" on the home turf of Milton Friedman. Through popular books, op-eds, the publication *ProMarket*, and the podcast *Capitalisn't*, the genial economist has built a reputation as a happy warrior for capitalism and free enterprise.

But Zingales' distinctive worldview flashes from the top of his 2023 course schedule: "Crony Capitalism," a class open to MBAs and non-MBAs alike. As he sees it, the land of boundless opportunity that drew him to the U.S. in the 1980s has grown to resemble the Italian economy he viewed as stagnant and nepotistic. Corporate lobbying—not free and fair competition—often shapes who wins and who stays on top. An increasingly "winner-take-all economy," he wrote in his 2012 book, *A Capitalism for the People*, "diminishes hope," stifling innovation and inspiring those left behind to elect leaders who further dismantle the mechanisms of the market.

Building a more inclusive economy sits at the heart of Zingales' battle to preserve economic freedom. "My approach overall is to think about how to fix the system," Zingales said. "Capitalism in its pure form, to the extent this exists, is relatively good—not an absolute good, and not in every situation. But relatively good."

On the sidelines of the Institute's fall research conference, we discussed the connection between healthy capitalism and inclusive growth.

**On the heels of the Great Financial Crisis, you wrote in the preface to your book that you were "scared that Americans, in their justifiable anger about the way things have gone, will choose a path that brings an end to American capitalism as we know it." Ten years later, how is support for capitalism holding up?**

I'm sorry to say that my book was more prescient than even I thought at the time. There's a chapter called "The Time for Populism," in which I said populism was inevitable. I was looking at the economic trend that in the previous 20 years, capitalism had not delivered [an improved standard of living] for the majority of American people. If you start from that premise, the question was not whether populism would succeed or not, but which form it would take.

I was advocating for a form of pro-market populism that unfortunately seems to have no space on the political spectrum. I don't think that you necessarily need to block the market to succeed. In fact, my view is that we can all succeed by designing rules that protect competition to the benefit of everybody. The weakest lobby seems to be the pro-competitive lobby—but that's what I would like to represent.

**The American public seems lukewarm on capitalism. In a recent Pew survey, 57 percent of Americans say they have a positive impression of it, down 8 percentage points since 2019. When asked if they think capitalism gives people an equal opportunity for success, the positives drop to 36 percent. Women and low-income people take a particularly dim view of capitalism. How do you win hearts and minds?**

First you need an active policy to equalize starting points, starting with primary and secondary schools. The system of financing schools in the United States is a disaster because it makes it easy for rich people to have good schools for their kids and leave the rest in the lurch.

In the book, I put forward the idea of a "contingent" voucher that is worth more for people who come from poor backgrounds—adding progressivity to a voucher system. The problem we have seen with vouchers where they have been applied is that if parents are reasonably well-educated, they know how to navigate the system to make sure that their children go to the best schools. But if you come from a poor background, nobody is looking out for you.

I was trying to think about a "capitalist" way to motivate the actors, where we actually pay a school more if we send a low-income kid there rather than a child of somebody rich. We need to work to make the education system less regressive. Everybody agrees in principle, but it has been difficult in practice.

**How do you see inequality undermining the system of capitalism and competitive markets?**

A capitalist system provides strong incentives, and if you are talented—and also lucky—those incentives make you rich. A system that tries to minimize differences in *outcomes* is a more equal system, but tends also to minimize incentives—less innovation, less vibrancy, less mobility.

**Capital-listen**
Since 2018, Zingales has hosted the podcast *Capitalisn't* with financial journalist Bethany McLean. Produced by the Chicago Booth's Stigler Center for the Study of the Economy and the State, *Capitalisn't* is committed to "analyzing capitalism, how it functions in contemporary society, and how it is subverted."
COURTESY STIGLER CENTER, UNIVERSITY OF CHICAGO

So, some inequality is a natural outcome of a capitalist system. I'm particularly interested in the political economy aspect: How tolerable is inequality at the margin? Inequality has gone up in China, for example, but everybody's so much better off than the previous generation that people are not so resentful. In the United States, on the other hand, when you see that the median income did not go up in the last 40 years in real terms, then you understand why there is so much resentment—because some people really are left behind. It's not so much inequality *per se,* but increasing inequality in a world in which we're all lifted up versus increasing inequality when one person is lifted up and the other stays down.

**Do you see the anti-capitalist forces growing and pushing for changes that would take us even further from the ideal that lifts all boats and moves us faster together?**

The outlook is not great because I think that a lot of people feel they have nothing to lose. They feel left behind and don't see any change. I think that the willingness of a large fraction of the population to experiment with unorthodox leaders is present throughout the West. You see it in England, you see it in Italy. I think it's a real reflection of the fact that people feel the system is not working for them.

**"You don't only lose income, you lose your dignity, the satisfaction of work—all the stuff that makes society stick together. The cost to society is very large, and our cost-benefit analysis should factor that in."**

## SAFETY NETS AND SLOWER CHANGES

**Competition produces winners and losers. You're advocating for more competition, which might raise overall welfare but means more volatility in people's lives. What are we getting wrong in terms of supporting the people who lose in the capitalist system?**

First, we need to think seriously about how to make it more difficult for business in the U.S. to be "winner takes all." Monopolies are bad from many points of view, and a more fragmented system gives more opportunities to more people. That's the reason why I've become much more interested in antitrust, particularly when it comes to the digital economy.

Second, a good safety net is an essential element of the capitalist system. You are more willing to innovate when you have a safety net if things go badly. There is a narrative that safety nets protect laziness, but you can design them in a way in which most of the time they do not. I think it's quite reassuring for people that you have this safety net to catch them.

Transition costs are also very important, and I think in economics we have completely ignored them. Consider employment in U.S. manufacturing. If you look at it as a *percentage* of U.S. employment, it's almost a straight line down since 1900—and there is nothing new about that. But if you look at the *level*—the level of U.S. manufacturing jobs had never gone down in the United States until 2000, when there was a significant drop.

Why is that important? If you have decline in percentages, that means that if I'm a manufacturing worker, my son or daughter might have to become a web designer or a nurse, which is perfectly doable. But if it's a reduction in level, that means that I, myself—the manufacturing worker, at age 40 or 50—have to become a web designer or a nurse. And that ain't easy. I think a lot of the resentment that we have seen in the United States, particularly in the Midwest, is the result of an opening of trade with China that was completely oblivious to this kind of transition cost.

**Is the solution something like more public investment in retraining programs? The evidence on retraining, overall, seems to be mixed.**

No. I believe a lot in training when you're young, but I think that the evidence of retraining is not great.

A different approach is to try to slow down the change. In the case of China, for example, I think most people now agree that we let China into the WTO [World Trade Organization] too fast. And we need to think about what kind of initiatives we can use to channel the workforce with those skills into jobs—creating activities that can employ them effectively.

If you know that you have some human capital that cannot be retrained, think about that from an economic official's point of view: We want to employ people optimally, and maybe supporting some factories here—even if they're not the most productive in the world—is better than the alternative when the alternative might be that people are unemployed and get affected by the opioid crisis, for example. I think that in economic policy we need to think more about the slow transition.

**You point out that our safety net, our unemployment insurance system, is built to respond to cyclical bouts of unemployment—not structural changes like globalization or technology.**

The safety net works extremely well for idiosyncratic factors, when you are facing a temporary period of unemployment. It is not designed for when you have a set of skills and that set of skills becomes obsolete. Then you don't only lose income, you lose your dignity, the satisfaction of work—all the stuff that makes society stick together. The cost to society is very large, and our cost-benefit analysis should factor that in.

We also have to be careful with fiscal stimulus. Because if you stimulate, for example, construction of houses, some of the people who should remain in the construction sector remain there, but you also attract young people where this might not be the most efficient use of resources. We need to find ways to shift the old workforce while directing the new workforce toward sectors with the brighter future.

## ANTITRUST AND INEQUALITY

**One of your recent papers looked at the decline of antitrust enforcement in recent decades, which you trace to increasingly powerful and sophisticated lobbying by business. How does antitrust connect to issues that the Institute cares about?**

I'll give you a simple example. If you look at the prices of cellular phone services in the United States, they are significantly higher than in Germany or Denmark—other developed countries that have a quality of service that's comparable or even better than the U.S.

If you take the difference of the price and multiply by the number of customers, you have the quadrangle of surplus that producers are appropriating at the expense of U.S. consumers. That quadrangle is $50 billion a year. This number, for Americans earning less than the median income, is comparable to the personal income tax they pay. It's a huge tax.

**For something that is essentially a life necessity now—a cell phone.**

Exactly. High prices are attacks on consumers. This is a way in which competition could really make people better off from a personal economic point of view. In Europe, companies can't merge from four major players to three easily because the Europeans know that when you end up with three players, tacit collusion is very likely [and regulators are more likely to block such mergers].

So—surprise, surprise—where you have more competitors, as in Europe, prices are lower. In my view they are also better off from a "freedom" point of view. When it comes to digital platforms that also have a news or information component, it's not only economic issues that are at stake. It is also a very important political issue because you restrict the space of freedom.

**Integrating ethics**
"Even when some business schools have separate classes where they teach morality, it is a bit like confession," said Zingales. "You confess on Sunday and sin every other day." Zingales is the Robert C. McCormack Distinguished Service Professor of Entrepreneurship and Finance at the University of Chicago Booth School of Business.
JOHN ZICH 2022 / UNIVERSITY OF CHICAGO

## CAPITALISM IN TIMES OF ECONOMIC STRESS

**I was lending a hand the other day to answer a question sent in to the Minneapolis Fed by a high school student, asking about the point at which price increases become "price gouging." For many reasons, that's a tricky one to answer! Having thought a lot about how companies exercise market power, how are you looking at corporate profits and pricing in relation to inflation right now?**

If you try to explain the recent spike in inflation, I'm not so sure market power can explain that. Market power is very good at explaining the level of prices, but not necessarily the changes in prices.

That said, looking over a longer period we know that having a more competitive market makes it easier to have a lower level of inflation in equilibrium. For one thing, it makes it easier to pass on reductions in prices. I remember when I wrote that paper on the cell phone industry, I tweeted some results and a fellow academic tweeted and said, "Oh, but prices have dropped." I replied, "Yeah, prices have dropped, but they dropped much less than in Europe."

When you have a technology that reduces prices dramatically, companies are forced to rebate this to consumers if they have competition. If not, they keep it. I don't think that you can blame companies for the current inflation spike, necessarily. But we should work for more competitive markets to make sure that inflation remains low in the long term.

**We could be looking at a period of recession. What are the potential impacts on attitudes toward capitalism if we go through a painful contraction?**

You said the right word: It is very much a function of the pain and how this pain is distributed. Recessions are never a great time for capitalism because capitalism does generate inequalities and tension. In boom times, everybody's a capitalist! In a recession, everybody starts to think about alternatives.

I think that a lot would depend on how deep, long-lasting, and wide the recession is. It also matters what attitudes people have to begin with—if we go into [an economic downturn] with, already, a sense of mistrust. This time, for example, we have the FTX cryptocurrency scandal in the news; people associate that greed and incompetence with the entire system. We can talk also about Theranos [the defunct biotechnology startup], which never had an audited financial statement—and yet people gave hundreds of millions of dollars to a dropout from Stanford without even asking. That's an indictment of how badly money is managed.

**"Recessions are never a great time for capitalism because capitalism does generate inequalities and tension. In boom times, everybody's a capitalist! In a recession, everybody starts to think about alternatives."**

**Those episodes color the general public's opinions about capitalism and especially the financial sector, which is a huge part of the U.S. economy at about 8 percent of GDP but 15 percent of corporate profits. It adds to the public impression that the financial sector actually hurts the economy—helping the rich get richer and helping themselves get rich along the way. In your books, however, you make the positive case for finance.**

I think that a good financial system should actually reduce the difference between the haves and the have-nots—even as it exacerbates the difference between the *can* and the *cannot*.

If I come from a wealthy family, I have access to financial resources no matter what, so I can start a new business—not because I'm the smartest one, but because I've got money and the right connections. A good financial system is one that gives opportunities to people who are not born wealthy to access resources and to innovate. That's the healthy part that can help equalize the haves and have-nots.

On the other hand, it can give a lot of rewards to the ones who *can*—with the potential effect that those who *cannot* are left behind. The financial system is not an equalizer. However, it has the potential to reduce this asymmetry of starting points.

**To what extent does the U.S. financial sector live up to that potential?**

I think it is a mixed review, but getting worse over time. The venture capital movement was incredibly good because it gave opportunities to many people. We have seen great success coming out of Silicon Valley and beyond, although venture capital is still much more cliquish than I would like it to be.

However, the average American does not really benefit from it because we as average Americans invest in the stock market. And in the stock market, the startups show up only when others want to divest, which is generally not the greatest moment to invest in terms of a return. I think that people see a group of elites who are getting phenomenal returns that you and I cannot get. That's part of this two-tier system that needs to be addressed.

**You have highlighted social norms as an important component of a system that works for all. What is the responsibility of economists and business schools to talk about ethics and reinforce social norms?**

We economists have done a disservice to business education and economic education by pretending to be only positive [that is, "descriptive"]. In fact, we are normative without disclosing it.

It's very subtle. For example, economists say that not defaulting on debt when it's technically in your interest to default is not "rational." But most of us will say that is the moral thing to do: If you have an obligation and you can't pay, even if you can get away with not paying, paying is still the moral thing to do. It's not non-rational—which becomes irrational, with a negative connotation.

I think that the issue of morality is largely absent from courses in business school. Even when some business schools have separate classes where they teach morality, it is a bit like confession—you confess on Sunday and sin every other day. What I'm trying to do with my teaching is integrate these moral questions into my teaching of every subject.

**If we neglect ethics and morality, as your argument goes, we increase the longer-term risk that public resentment will chip away at the benefits of a capitalist system.**

I think that clearly the system will become more exploitative—with, of course, negative consequences.

**Including negative consequences for MBAs.**

For MBAs too. I hope that we can educate MBA and undergraduate students who are not just into making money, but into making the world a better place. If you can do both at the same time, of course, that's the goal! But it's not easy. ★

World-class research can be lengthy and complex. Here, we present key findings, methods, and policy implications from several studies by Opportunity & Inclusive Growth Institute scholars and their colleagues. These examples represent a fraction of the Institute's growing body of research. For our full library, visit minneapolisfed.org/institute/publications/working-papers.

ILLUSTRATIONS BY HOKYOUNG KIM

# The long shadow of long COVID

## Survey data offer early insights into long COVID's impact on people's ability to work

**BY LISA CAMNER MCKAY**

At this point in the pandemic, experts estimate that more than 70 percent of the U.S. population has been infected with COVID-19. Some are unaware they were ever infected. Others, however, suffered symptoms for weeks and weeks … and weeks.

This is "long COVID," a phenomenon identified early in the pandemic when people's symptoms simply did not go away, or went away and then returned. According to surveys, the most common long COVID symptoms are fatigue, labored breathing, muscle aches and pains, cough, and cognitive dysfunction—a constellation that understandably may interfere with both quality of life and ability to work.

In the pandemic's early days, former Minneapolis Fed Research Assistant Dasom Ham was studying how different surveys measure disability, and it struck her that individuals with long COVID might become eligible for disability insurance if their symptoms interfered with their work. This thought prompted her to start a new project to answer the questions, Does experiencing COVID symptoms for an extended time affect whether a person works? How much they work? How much they earn?

Because the data to answer these questions did not yet exist, Ham wrote new questions that were added to a national survey. Ham's findings, presented in an Institute working paper, are preliminary, but they suggest there is a group of "affected long-haulers" who are less likely to be employed and more likely to have changed their employment type than individuals who did not experience COVID the same way. In Ham's study, a "long-hauler" refers to an individual whose COVID symptoms have lasted at least 12 weeks.

If long COVID is keeping people out of the labor force for the long term, that has implications for the Federal Reserve's understanding of when we have reached maximum employment. It matters for how the government defines eligibility for disability insurance and how much

income support long-COVID sufferers may need. And by impacting the workforce's size and productivity, it might ultimately impact economic growth.

### New survey for a new phenomenon

The main challenge for most analyses of COVID's impact is having the right data to analyze. For her analysis, Ham said, "The ideal data set would be something where you could track the same people over time, since it's easier to calculate changes in labor market behavior if you can compare what they did before they had COVID to after they had COVID."

Enter the Understanding America Study (UAS), which provides researchers with data from a demographically diverse pool of people who respond to one or two surveys a month. Ham's questions asked if an individual had had COVID at any point since the start of the pandemic; if their symptoms had lasted 12 weeks or more; if their COVID-related symptoms affected their employment status or work hours; and when they recovered or if their symptoms were ongoing. These questions were fielded as part of a larger survey to about 4,900 respondents between May 12 and June 22, 2021.

These survey data give Ham two ways of evaluating long COVID's employment impact. One, she can look at what people themselves say about how their COVID affected their work. And two, because the UAS surveys the same group of people repeatedly over time, Ham can categorize respondents according to their COVID status and then compare their actual work behavior before and after they got sick.

### The relationship between health and employment

Ham's first task is a simple one: Count how many people have had COVID, have had long COVID, and whose work has been affected by long COVID, by their own report. Overall, 13 percent of

**STUDY AUTHOR**

DASOM HAM, University of Michigan

The evidence suggests that some long-haulers need additional accommodations to keep working while they are suffering symptoms.

respondents reported having COVID at some point. About a quarter of those who reported having COVID said they experienced long COVID, and a quarter of these long-haulers said their symptoms affected their employment status or work hours.

These numbers are similar to the results of the U.S. Census Bureau's November 2022 Household Pulse Survey, in which 28 percent of respondents who had experienced COVID during the pandemic said their symptoms had lasted three months or more. This survey finds that 16 million adults living in the United States are currently experiencing symptoms of long COVID. Applying Ham's findings, for about 4.3 million of them, their symptoms have affected their employment.

Long COVID is not going away.

### Quantifying long COVID's employment impact

Ham next looks at the labor market status before and after individuals experienced COVID as a way to quantify long COVID's impact. The result is fairly striking, if unsurprising: Only 57 percent of affected long-haulers remain employed after their bout with COVID, compared with 98 percent of unaffected long-haulers and 94 percent of non-long-haulers.

In addition, Ham looks at employment type—whether someone is self-employed or works for an employer. While more than 80 percent of unaffected long-haulers and non-long-haulers remained in the same employment type after they had COVID, only 66 percent of affected long-haulers did so. While more research is needed to better understand these changes in employment type, it suggests that some long-haulers need additional accommodations to keep working while they are suffering symptoms.

Ham also uses regression analysis to compare employment outcomes across groups so she can control for a variety of demographic factors, including age, education, race, gender, and marital status, that tend to be correlated with employment status, hours, and earnings. This is important if a demographic factor is correlated with both having long COVID and with an employment outcome. For instance, women are more likely than men both to have long COVID and to have lower earnings.

Ham's analysis suggests that, for at least some individuals, there does appear to be a correlation between having long COVID and working less. First, Ham finds, during the time they are experiencing long COVID, affected long-haulers are 10 percentage points less likely to be employed than individuals who have not had COVID. Second, the change in hours worked in the past week is about 40 percent lower for affected long-haulers than it is for those who have not had COVID. Additional survey data would help to better understand the specific labor market trajectories of individuals with different COVID statuses.

### What we still don't know—and why it matters

Ham believes that her findings should be viewed as preliminary and that more research on these questions is needed. The number of people with long COVID that her results are based on is fairly small, 193 in all. Furthermore, the job market was still in a great deal of flux in the spring of 2021.

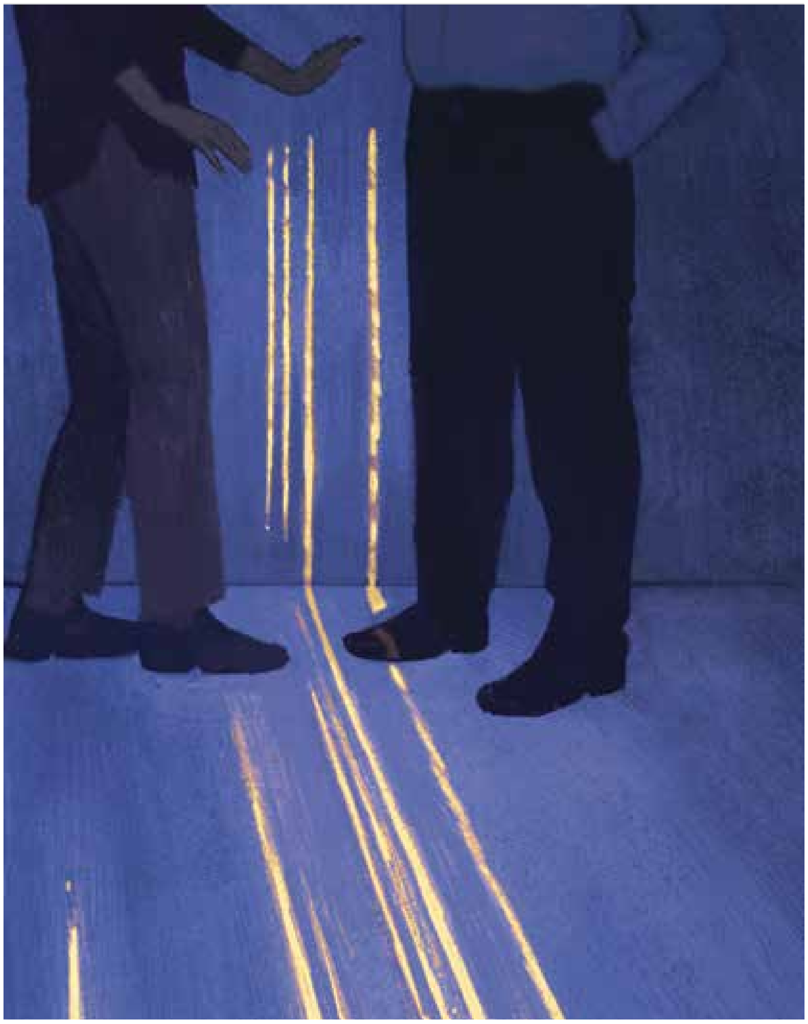
That said, Ham is not alone in finding that long COVID adversely impacts some people's ability to work. For instance, a working paper by Gopi Shah Goda and Evan J. Soltas that analyzes survey data from the Current Population Survey finds a substantial increase in absences due to workers' own illness during the COVID pandemic. The economists estimate between 340,000 and 590,000 people left the labor force between March 2020 and June 2022 due to deteriorating health related to COVID.

Future data collection and analysis will allow researchers to explore labor market outcomes among people with different demographic characteristics, such as age, education, or race. For instance, does the labor market impact vary with the age of the person experiencing long COVID? Goda and Soltas suggest yes, finding that it is mainly older workers aged 65 to 85 who leave the labor force in the year following a week-long health-related work absence. As poverty rates among the elderly increase in the United States, the long-term employment impact of long COVID on older Americans deserves more scrutiny.

Better data will also help us learn how to support the labor market participation of those who have been affected by COVID. A recent analysis from a research advisor at the New York Fed finds that the number of employed people who are disabled increased by about 900,000 between February 2020 and October 2022. Whether that trend continues may hinge on employers' willingness to make workplace accommodations for those who need them. ★

**TAKEWAYS ↗↗**

- New survey data offer insights into labor market impacts of long COVID
- One-quarter of people with long COVID report lingering symptoms affected their employment
- Long COVID has repercussions for labor force participation and economic growth



# Power, violence, and consequences at work

## When violence erupts between co-workers, women bear most of the burden

**BY NISHA CHIKHALE AND ANDREW GOODMAN-BACON**

American workplaces can be violent environments. Clerks and bartenders get robbed. Patients attack nurses, EMTs, and doctors. About 1.3 million workers per year report being victims of violent crime at their job, and more than 20,000 people miss work time because of it.

Spurred by the flood of sexual assault allegations in 2017, the #MeToo movement publicized numerous cases of high-profile men who attacked female subordinates at work yet faced little to no repercussions, while their victims' well-being and careers suffered. "Is this just true for famous, powerful men like the Harvey Weinsteins of the world, or is this true in general?" asked Emily Nix, former Institute visiting scholar and assistant professor at the University of Southern California. "Take a nondescript office and a manager who assaults his female subordinate. Does he have few repercussions? Does she have lots of repercussions? And what happens to the firm? That just hasn't been studied."

Until now. Nix is a co-author with Abi Adams-Prassl, Kristiina Huttunen, and Ning Zhang of an Institute working paper that documents, for the first time, the harm that workplace violence causes and how gender interactions shape who suffers these consequences.

**STUDY AUTHORS**

ABI ADAMS-PRASSL, University of Oxford; KRISTIINA HUTTUNEN, Aalto University; EMILY NIX, University of Southern California; NING ZHANG, University of Oxford

### Negative fallout

Nix and her co-authors set out to measure how violence between co-workers changes employment rates and earnings of both perpetrators and victims. This is no easy task. The team not only needed data on where people worked, they also needed information on which co-worker attacked another and when. Very few countries gather such sensitive information.

Fortunately, however, Finland does. Nix and her co-authors assembled one-of-a-kind data on labor market trajectories for workers involved in more than 5,200 violent incidents with a co-worker between 2006 and 2019. They then looked at how employment changed for workers involved in a reported attack compared with similar workers who were not.

Their evidence shows that reported workplace violence *immediately*, *seriously*, and *persistently* harms everyone involved. Employment rates of both perpetrators and victims fell significantly in the first year after one co-worker attacked another. After five years, both groups were about 10 percentage points less likely than comparison work-

## Workplace violence immediately, seriously, and persistently harms everyone involved.

ers to be working *at all*. That is a large cost. A layoff—one of the biggest shocks a worker can experience—only reduces employment for Finnish workers by about 4 percentage points over the same time frame. Violence hurts—beyond the physical and emotional cost, there is an economic cost as well.

### Violence and gender

Digging into the details, however, reveals stark differences in what workplace violence looks like for men versus women and who bears the larger cost. For example, about as many women as men are victims of workplace violence, but men commit most of the violence. When men attack women, the victims tend to be younger, earn lower wages, and hold lower-ranked positions than them. When men attack other men, the victims tend to be co-workers who are similar to them. Women are also more likely than men to be the victims of serious crimes such as assault and menace—crimes that carry prison terms.

Most striking, though, are the ways in which the gender of the attacker and the victim skew the labor market consequences of workplace violence. The chart below illustrates that when men attack women, their employment rates fall by half as much as when they attack men, even though attacks against women are, on average, *more* serious. On the other hand, female victims are about twice as likely as male victims to be out of work.

So, why are the consequences for male perpetrators so much smaller when their victim is a female colleague? One reason stems from the power differentials. Subordinates attacked by their managers have lower employment rates than victims attacked by co-workers of similar rank. Since women are more likely than men to be attacked by managers, "it seems like this position of power is key in explaining that asymmetry," said Nix.

### Why firms matter

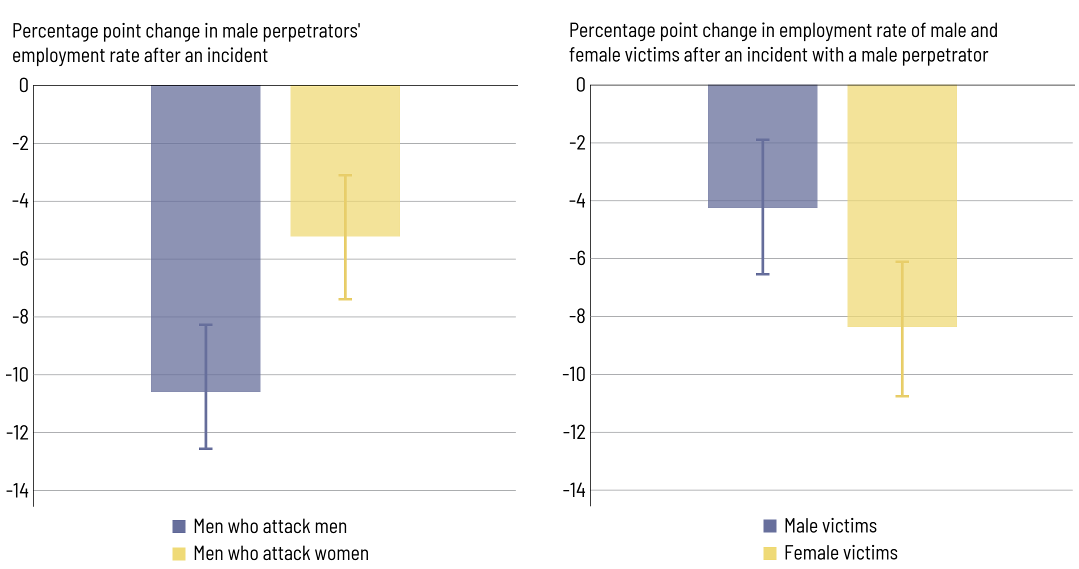
One clear lesson from the paper is that how a firm chooses to handle a violent incident matters, and different firms and managers handle these incidents in very different ways.

For example, whether a manager dismisses a perpetrator following a violent incident is an important choice, both for the perpetrator and for the victim's outlook about the firm. The paper finds evidence suggesting that male managers are more reluctant than female managers to fire perpetrators. Perpetrators who had a female manager have lower employment rates after the incident than perpetrators who had a male manager, and female managers help firms retain female employees after a violent incident.

These results describe a world where firms have the power to reduce the consequences of workplace violence for victims—they can penalize perpetrators by firing them—yet they aren't doing it enough. Women are disproportionately paying the costs.

In fact, the fallout from violent inci-

**ASYMMETRY IN EMPLOYMENT IMPACTS OF WORKPLACE VIOLENCE**




Each bar in the figure plots the change in employment rates 5 years after an incident of workplace violence compared to the change in employment rates over the same period for similar workers who were not involved in an incident. The lines are 95% confidence intervals.

Source: Adams-Prassl, Huttunen, Nix, and Zhang, "Violence Against Women at Work."

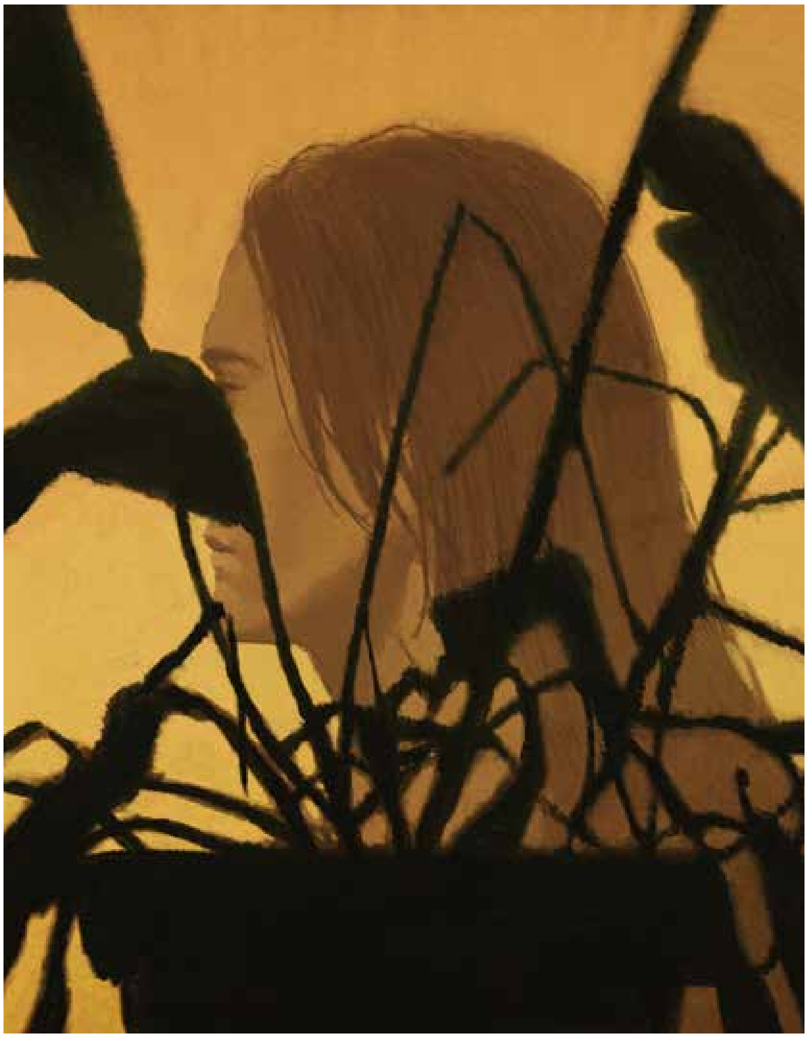
dents may result in broader employment patterns in which female workers choose certain firms rather than others to avoid potentially violent working conditions. In this case, violence may lead to much larger consequences than the employment setbacks documented here if it limits the firms or positions to which women feel safe applying. As Nix notes, adding these costs up “could play a non-trivial role in explaining some part of the gender income gap.”

### Preventing gender-based violence at work

The unpleasant reality is that power-based violence and gender-based consequences likely impact women throughout the labor market. This is “something we need to deal with if we’re going to have better functioning labor markets that are more inclusive,” Nix said. Any steps to reduce the incidence of violence or its negative effects, therefore, could have far-reaching benefits. In 2022, the Biden administration enacted two new laws to curb sexual assault and harassment in the workplace: the Speak Out Act and the Ending Forced Arbitration of Sexual Assault and Sexual Harassment Act. Both bills are aimed at empowering victims to report workplace sexual violence and pursue charges against perpetrators, which may help improve women’s working conditions in the United States. ★

**TAKEAWAYS ↗↗**

- Violence between co-workers reduces employment rates for perpetrators and victims
- Men who attack women at work face smaller employment consequences than men who attack men
- Female managers are more likely to fire perpetrators, reducing negative employment effects for other women in the workplace



# “Deaths of despair” and economic opportunity

## Native American deaths of despair yield more questions than answers

**BY ELLIOT CHARETTE AND ANDREW GOODMAN-BACON**

In their 2020 book, economists Anne Case and Angus Deaton put forth a sweeping and tragic story about why deaths by suicide, drug use, and alcohol abuse, called “deaths of despair,” more than tripled between 1992 and 2017 among middle-aged White Americans without a bachelor’s degree. As these workers lost stable, well-paying jobs, Case and Deaton argue, they also lost their place in American society—their source of status and self-respect. Adults who expected to reach middle age with growing families, increasing seniority at work, and community stature felt abandoned. They turned to drugs, alcohol, and suicide. Death rates spiked.

**STUDY AUTHORS**

RANDALL AKEE, University of California, Los Angeles; DONN FEIR, University of Victoria; MARINA MILEO GORZIG, Mathematica; SAMUEL MYERS JR., University of Minnesota

Case and Deaton's explanation hinges on a precipitous change in the economic life of some White Americans, a swing from prosperity in the mid-20th century to stagnation, poverty, and dissolution of family life today. But economic opportunities have been comparatively rare for other populations, like Native Americans, for as long as we can measure. How does Native American economic life fit into the narrative linking a loss of stature to deaths of despair? And can this narrative realistically guide policies to address Native American deaths of despair?

New evidence on deaths of despair in an Institute working paper shows that among people without a college degree, Native Americans were two to four times more likely than White people to have died from drugs, alcohol, or suicide. But puzzlingly—and in contrast to White death rates—Native American deaths from these causes did not rise in counties where the economy worsened.

## The national picture

Measuring death rates is not as easy as it seems. Solid data on national and state death rates go back decades, but granular information about who died, and where and why they died, is either restricted to protect confidentiality or filled out incorrectly by coroners who did not know the deceased or the circumstances of their death. This makes it especially hard to learn about deaths for racial groups in small areas, like reservations, and from specific causes, like drug use, alcohol abuse, or suicide.

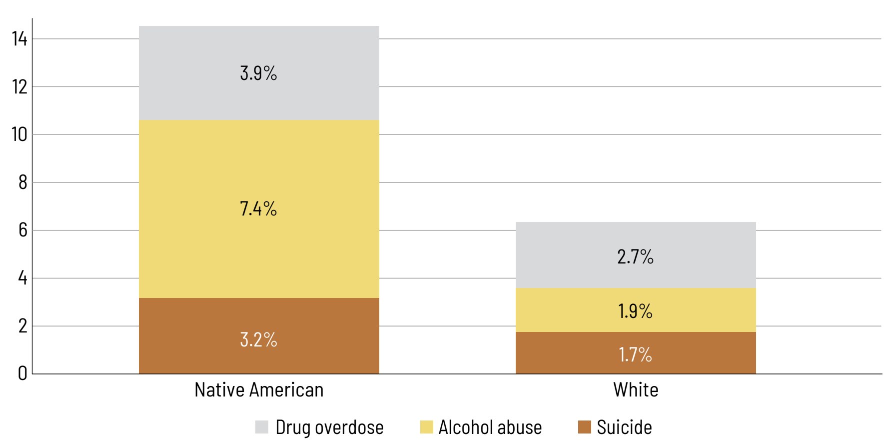
Thus, the authors first had to tease out accurate measures of deaths of despair for misclassified populations that tend to live in sparsely populated areas. To do so they used data from every death certificate from 2005 to 2017, combed through the detailed cause-of-death codes, and adjusted for the likelihood that officials misclassified Native American decedents as some other race. They measured deaths of despair as the share of deaths attributable to drugs, alcohol, or suicide.

The results, shown in the figure, reveal that Native Americans without a college degree suffer from deaths of despair more than twice as often as similarly educated White people. For Native American adults, deaths of despair were outnumbered only by deaths from heart disease. In addition, deaths of despair occur earlier for Native Americans. In particular, suicides peak in the late teens and 20s—when people would otherwise be investing in themselves, starting careers, or forming families—rather than the 50s and 60s, the ages when suicides peak among White Americans.

These are shocking numbers, and they show that substance abuse and suicide are an enormous public health concern among Native Americans.

**NATIVE AMERICAN AND WHITE DEATHS OF DESPAIR IN 2017**

Percentage of deaths for ages 15 and older without a college degree, by race




Each column shows the share of total deaths for that group that are attributable to the listed cause. For instance, in 2017, 3.9% of deaths among Native American decedents were due to drug overdoses.

Source: Multiple Cause-of-Death Mortality Data from the National Vital Statistics System of the National Center for Health Statistics.

## Is it the economy?

These patterns fit the broad outlines of Case and Deaton's theory, which emphasizes that a lack of hope can lead to destructive behaviors that sometimes lead to death. This view connects long-standing disparities in economic outcomes between Native Americans and White Americans to the large gaps in deaths of despair that the Institute working paper documents.

The trend over time lines up with broader economic changes, too. Between 2005 and 2019, when deaths of despair were growing, median earnings for both Native American and White people fell by about 4 percent for those without a college degree.

To look more directly at the role of economic circumstances, the study authors zoom in on deaths of despair in places with stronger versus weaker labor markets. While one might expect both Native Americans and White people to become better off when there are more employment opportunities, thus reducing deaths of despair, the results reveal a more complex set of facts.

Across four measures of county-level labor market conditions, the authors find that White deaths of despair tend to fall when employment prospects improve. Native American deaths of despair, on the other hand, do not to change very much when local labor markets expand or contract.

Why is that? For Native American adults, the answer is that the different types of deaths of despair follow different patterns when economic conditions improve or worsen. Drug deaths rise in a strong labor market, perhaps because people have more resources or because a swelling population invites an expanded drug supply. Suicides, by contrast, tend to fall when employment expands, while deaths from alcohol abuse are not related to local economic conditions. "Local economic activity is going to have different effects for different populations," said Donn Feir, an affiliate with the Minneapolis Fed's Center for Indian Country Development, "and policymakers need to be cognizant about the potentially disparate impacts by both racialization and gender."

## Elusive explanations

One avenue for learning more about links between the economy and deaths of despair is to use better measures of Native American economic conditions. "We don't actually look at Native American employment rates," Feir pointed out. "We're looking at local general economic conditions," which include many non-Native people.

In fact, Indigenous communities experienced unique economic fluctuations in the last 20 years. "There's actually been an explosion of hope and opportunity for many nations during this time period," Feir noted. Some nations grew in population and in economic activities in the 1990s and 2000s, then stalled, partly because of plateauing casino revenue. Native American deaths of despair may be more closely related to these economic changes than to more aggregated conditions.

For Native American women especially, the authors posit that deaths of despair may be connected to violence and human trafficking among Indigenous populations. If transitory workers who flock to booming rural areas with large Native American populations—such as the Bakken oil field in North Dakota—increase demand for sex work, "anecdotal evidence from activists and others is that [this] can result in worse health outcomes for Indigenous women," said Feir, either directly or because of ensuing trauma. Thus, deaths of despair for Native American women and girls may be connected to the crisis of missing and murdered Indigenous women and girls.

Understanding the broader relationships between Native American deaths of despair and economic conditions can also help policymakers address this issue. For example, if an increase in drug availability is indeed a cyclical driver of these deaths, then policies that reduce drug abuse or its consequences may be especially beneficial during good times and may allow Native communities to experience reduced suicides without an increase in overdoses.

Finally, Feir and co-authors show that Case and Deaton's proposed link between economic deprivation to deaths of despair is a starting point, not an endpoint. This paper's national-level findings are broadly consistent with that view. Native Americans do face more economic disadvantage, have consistently reported higher rates of psychological distress, and suffer much more from deaths of despair than White Americans today. But the different short-run relationships between deaths of despair and economic conditions for Native American and White people suggest that other factors must be at play. Understanding these factors holds promise for saving lives. ★

> Native Americans without a college degree suffer from deaths of despair more than twice as often as similarly educated White people.

**TAKEAWAYS ↗↗**

- Deaths from alcohol-related causes, drug abuse, or suicide are called "deaths of despair"
- Deaths of despair are two to four times as common among Native Americans as among White people
- Total Native American deaths of despair do not change with local economic conditions

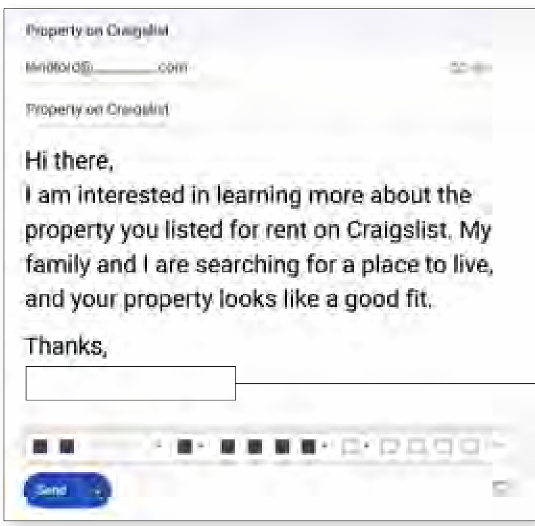
# UNINTENDED CONSEQUENCES OF LIMITING RENTAL SCREENING

To increase access to rental housing, some city governments have contemplated policies that restrict landlords' ability to use certain information when screening tenants. Long-standing biases in education, labor markets, and the criminal justice system mean some racial groups are more likely than others to be filtered out. Intuitively, limiting screening criteria should expand access.

This was the motivation for a 2020 policy in Minneapolis, providing a natural experiment for Institute visiting scholar Marina Mileo Gorzig and Deborah Rho to study how the new protections would affect discrimination against potential tenants. For six months before and six months after the new policy went into effect, Gorzig and Rho sent fictious emails to publicly advertised rental units using names that are strongly associated with one of three groups: White Americans, Black Americans, or Somali Americans.

Since June 2020, Minneapolis landlords may not use certain information to screen applicants, including:

- **Credit scores**
- **Misdemeanors** older than 3 years
- **Felonies** older than 7 years
- **Evictions** older than 3 years




NIA JACKSON • **BLACK AMERICAN**

KHALID BAHDOON • **SOMALI AMERICAN**

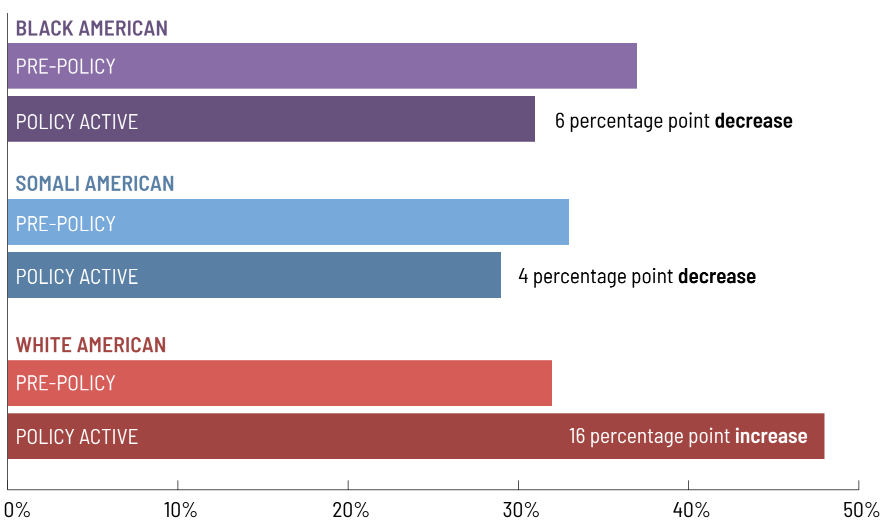
AMBER SULLIVAN • **WHITE AMERICAN**

The economists replied to more than 6,700 rental listings in Minneapolis and St. Paul, a similar rental market that lacks the new screening protections.

## BIAS AND STEREOTYPING

For Minneapolis rentals with two-plus bedrooms, the share of emails that received a positive response declined when signed with Black or Somali names, and increased when signed with White names. This was not the same response pattern as in St. Paul, suggesting it is Minneapolis' new policy that caused the change. The analysis suggests that in the rental market, limiting certain information about applicants can have the unintended effect of increasing group discrimination—in this case, stereotyping based solely on name. The results echo those of "ban-the-box" policies, where limiting information about a job candidate's criminal record can lead hiring managers to fall back on group stereotypes instead.

**POSITIVE RESPONSE RATE FOR 2-PLUS BEDROOM RENTALS IN MINNEAPOLIS**




Source: Marina Mileo Gorzig and Deborah Rho, "The Impact of Limiting Applicant Information on Rental Housing Discrimination," Institute Working Paper 61 (2022).

DATA VISUALIZATION BY LISA CAMNER MCKAY AND NINA LEO

# FEDERAL RESERVE BANK OF MINNEAPOLIS

The Federal Reserve Bank of Minneapolis is home to the Opportunity & Inclusive Growth Institute and *For All* magazine. The Minneapolis Fed has a long history of research designed to inform policymakers. Some of the hallmark policy initiatives driven by pioneering research are studies around banks that are too big to fail and the powerful return on public investment in early childhood education. One of 12 Federal Reserve Banks, the Minneapolis Fed monitors the Federal Reserve's Ninth District economy to help determine the nation's monetary policy and strives to promote economic well-being.

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Federal Reserve Bank of Minneapolis
90 Hennepin Avenue
Minneapolis, MN 55401-1804

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## FINAL THOUGHT

"Trust in the Fed and its credibility has been such an important part of the success of monetary policy in the decades leading up to the pandemic. I don't know how you retain that trust unless you are doing things to make sure the economy is working for everyone."

**Karen Dynan**, Professor of the Practice of Economics, Harvard University, and Professor of the Practice of Public Policy, Harvard Kennedy School

CAROLINE YANG



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